RESEARCH

Cariboo Forest Region

- Making Research Work For You -

EXTENSION NOTE #2
February 1993

Grass and Legume Seeding for Vegetation Control

RESEARCH ISSUE GROUPS

- **Soil Conservation**
- **Wildlife Habitat**
- **Hydrology**
- **Forest Health**
- **Reforestation**
- **Stand Tending**
- **Ecosystem Inventory and Classification**
- **Biodiversity**
- **Guideline Verification**
- **Extension**

INTRODUCTION

This research focuses on grass and legume seeding for the control of invading native vegetation in the Horsefly Forest District, and consists of a retrospective survey with a later research and demonstration seeding trial.

The objective of this work was to test the effectiveness of excluding native species of competing vegetation by replacing them with low-growing grasses and clovers.

Seeding was tested as a silviculture treatment for its potential to:

- reduce native vegetation re-establishment by initially occupying the site with less competitive species,
- reduce vegetation competition with crop tree seedlings, and
- improve the physical and nutritional characteristics of the soil.

RESULTS

Blade scarification and seeding reduced total vegetation cover to about 65% of that on untreated sites after three to five years. Shrub cover was substantially reduced, and seeded grasses replaced much of the herbaceous cover. Although clovers established and persisted well on ICH sites, little clover remained on the ESSF sites five years after seeding. Creeping red fescue established vigorously on most sites and accounted for more vegetation press than any other seeded species.

Grass and legume seeding increased total vegetation cover in the first two to three years following seeding compared to unseeded areas. However, this increase in total cover may be compensated by the reduced height of the seeded vegetation compared to the native vegetation. Seeding reduced fireweed cover and produced high survival rates for pine and spruce two years after planting.

RESEARCH Section, Ministry of Forests, Cariboo Forest Region
200 – 640 Borland Street, Williams Lake, BC V2G 4T1 Phone (250)398-4345
Fax (250)398-4380 http://www.for.gov.bc.ca/cariboo/research/research.htm

106-06854/

Spruce survival was clearly higher on scarified than unscarified sites. On blade scarified sites, seeding seems to have little or no additional effect on crop tree survival or growth compared to unseeded areas.

Blade scarification displaced most of the soil organic matter as well as much of the surface mineral soil from the planting microsites. In addition, surface soils were often compacted. These soil effects are a concern for long-term productivity of the site; nutrient analyses indicated reduced levels of nitrogen in the soils and plant tissues of bladed sites. Seeding of grasses and clovers may help to benefit long-term site productivity by restoring soil organic matter, structure and nutrients.

FUTURE WORK

Studies on the effects of grass and legume seeding on native vegetation, crop tree performance and soil nutrients are continuing in the Cariboo and other regions. A report summarizing all current grass and legume seeding studies in the BC Interior is being planned jointly with researchers in other regions for next year.

CONTACT

For more information, contact **Ordell Steen** at 398-4409.

REFERENCE

Grass and Legume Seeding for Vegetation Control on Blade Scarified Sites in the ICH and ESSF zones in the Central Interior of British Columbia, by Ordell Steen and Anne Smith. June 1991. FRDA Report 182.

TRIAL REFERENCE
EP 1105